FACULTY OF ELECTRICAL ENGINEERING

UNIVERSITI TEKNOLOGI MARA

PULAU PINANG

FINAL REPORT:

DEVELOPMENT OF SNATCH THEFT SECURITY SYSTEM

NUR ALIS BINTI AZHAR

(2014814748)

ANIS ZAKIAH BINTI MOHAMAD ZAKARIA

(2014453228)

SUPERVISOR:

MRS. NUR ATHARAH BINTI KAMARZAMAN

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

In the name of Allah, the most compassionate, the most merciful. I thank Allah for giving this opportunities for me to gain experience how to be a part of the final year project student and in partial fulfilment of graduation requirements, undergraduate students in Electrical Engineering Department need to carry out a final year project (FYP). Although it was just a short period for me but I gained a lot of knowledge and understanding thanks to all my fellow colleagues and partner. The FYP is a substantial piece of work that will require creative activity and original thinking. A good FYP starts with the formulation of a problem, suggests alternative solutions, and then implements one of them.

We would like to express our deepest appreciation to all those who provided us the possibility to complete this report. A special gratitude we give to our final year project supervisor, Mrs. Nur Atharah binti Kamarzaman, whose contribution in stimulating suggestions and encouragement, helped us to coordinate our project especially in writing this report.

Furthermore, we would also like to acknowledge with much appreciation the crucial role of the staff of lab in Electrical Engineering Department UiTM Pulau Pinang, who gave the permission to use all required equipment and the necessary materials to complete the task "Development of Snatch Theft Security System". Last but not least, many thanks go to the head of the final year project 2, for giving us the opportunity to build a project which give us a lot of benefit such as in understanding better in electrical engineering subject also we can apply what we had study in the classroom to build a project. We also would like to thank the guidance given by other supervisor as well as the panels especially in our project presentation that has improved our presentation skills thanks to their comment and advice.

ABSTRACT

This project titled is "Development of Snatch Theft Security System" is focused on how the connection between transmitter and receiver in the Arduino sim900a with GSM Module. The GSM stands for Global System for Mobile communications. This is a global standard which is followed by the GSM modules inside the cellular phones which enables them to be connected with any mobile network around the globe. In certain applications the microcontroller based systems has to be connected with the GSM network which will enable a user to control the system by sending messages or making a call. The systems can also send messages to the user to alert or inform about the status of the system running.

In all such cases a separate GSM module is used rather than using the mobile phones. The advantage of using a GSM communication with a system or device is that the user can control the system wirelessly no matter how far it is kept compared to any other wireless communication, provided that both the user and the device should be in a cellular coverage area. A GSM modem is a specialized type of modem which accepts a SIM card, and operates over a subscription to a mobile operator, just like a mobile phone. From the mobile operator perspective, a GSM modem looks just like a mobile phone.

When a GSM modem is connected to a computer, this allows the computer to use the GSM modem to communicate over the mobile network. While these GSM modems are most frequently used to provide mobile internet connectivity, sending and receiving SMS and MMS messages. It is needed to be used in this project to send and receive SMS from the GPS tracker to obtain the location of stolen item.

CHAPTER 1
INTRODUCTION

1.1 Background of Study

The title of the project is the Development of Snatch Theft Security System. This is because, the previous system that which is the Snatch Theft Alarming System were created just for alarming the user and the people at the surrounding the item that it is being stolen but it cannot detect where the location of the item that were snatched such as Home Security System which only detect intrusion - unauthorized entry into a building or area by thief.

So, from the previous system inadequacy the addition of the Global Positioning System (GPS) into the security system is a must in order to develop the system to be more efficient and suitable for human safety in this technological era. The usage of GPS is to locate the location of the stolen item and time information in SMS while the item is still in the range (accuracy 5m).

To overcome this problem Snatch theft needs incident time attention i.e. ONTIME action as possibility to save the asset is more at that time. But once the thieves ran from that place then it will be cumbersome to catch them and just it is difficult to get the stolen item. So, a smart device is invented to protect user's personal belongings and avoid chain snatching. This device works proactively once it identifies the threat. When the thieves snatch the victim's personal things then device will automatically take action accordingly.

Person may or may not be alert but this device will always attentive, vigilant and help to save personal belongings and make life easier. It helps to protect not only personal belongings but to help victim from such danger. As most of the time person need to raise loud voice after the incidents. But invented device has make it easier to track the item just by sending SMS to the GPS tracker and the location will be replied by SMS back to the user in the form of coordinates, latitude and longitude.